



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) Publication number:

0 390 323 A3

(12)

EUROPEAN PATENT APPLICATION

(13) Application number: 90301817.4

(51) Int. Cl.⁵: C12Q 1/68, C07H 21/04,
C12N15/00

(22) Date of filing: 20.02.90

(30) Priority: 29.03.89 US 330566

(43) Date of publication of application:
03.10.90 Bulletin 90/40

(54) Designated Contracting States:
CH DE FR GB IT LI NL

(56) Date of deferred publication of the search report:
04.09.91 Bulletin 91/36

(71) Applicant: THE JOHNS HOPKINS UNIVERSITY
720 Rutland Avenue
Baltimore, MD 21205(US)

(72) Inventor: Vogelstein, Bert
3700 Breton Way
Baltimore, MD 21208(US)
Inventor: Baker, Suzanne J.
4 E. 32nd Street, Apt.405
Baltimore, MD 21218(US)
Inventor: Fearon, Eric R.
3700 N Charles Street, Apr.806
Baltimore, MD 21218(US)
Inventor: Nigro, Janice M.
4631 Schenley Road
Baltimore, MD 21210(US)

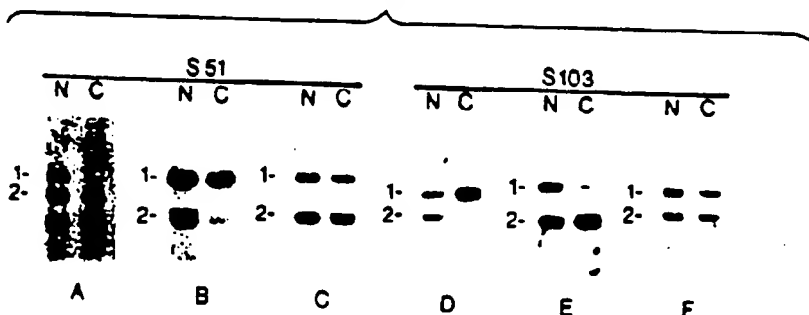
(74) Representative: Hartley, David et al
Withers & Rogers 4 Dyer's Buildings Holborn
London, EC1N 2JT(GB)

(57) Detection of loss of the wild-type p53 gene.

(57) Methods and kits are provided for assessing mutations and/or loss of the p53 gene in human tumors. Both deletion mutations and point mutations in p53 are observed in the same human tumor cells

and these mutations are clonal within the cells of the tumor. Loss of wild-type p53 genes is responsible for neoplastic progression.

FIG. 1





European
Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 90 30 1817

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
D.A	THE NEW ENGLAND JOURNAL OF MEDICINE, vol. 319, no. 9, 1st September 1988, pages 525-532, The Massachusetts Medical Society; B. VOGELSTEIN et al., "Genetic alterations during colorectal-tumor development;" * Whole article *	1,3,13,14, 15,35	C 12 Q 1:68 C 07 H 21/04 // C 12 N 15/00
A	NATURE, vol. 335, 29th September 1988, pages 400-402; B. PONDER, "Gene losses in human tumours" * Whole article, esp. tables 1,2 *	1,5-10, 15,35	
A	JOURNAL OF PATHOLOGY, vol. 157, no. 3, April 1988, pages 193-199, John Wiley & Sons, Ltd, F.M. VAN DEN BERG et al., "Expression of the nuclear oncogene p53 in colon tumours" * Whole article, esp. "Discussion" *	1,3,30,33, 35	
A	ONCOGENE, vol. 2, May 1986, pages 419-420, The Macmillan Press Ltd, "Genomic p53 gene immortalises" * Whole article, esp. paragraphs 7-9 *	1,3,14,33, 34	
P.X	SCIENCE, vol. 246, 27th October 1989, pages 491-494; T. TAKAHASHI et al., "p53: A frequent target for genetic abnormalities in lung cancer" * Whole article *	1-35	TECHNICAL FIELDS SEARCHED (Int. Cl.5)
P.X	SCIENCE, vol. 244, 14th April 1989, pages 217-221; S.J. BAKER et al., "Chromosome 17 deletions and p53 gene mutations in colorectal carcinomas" * Whole article *	1-35	C 12 Q C 12 N C 07 K G 01 N
A	PROC. NATL. ACAD. SCI. USA, vol. 85, 1988, pages 4397-4401; R.G.H. COTTON et al., "Reactivity of cytosine and thymine in single-base-pair mismatches with hydroxylamine and osmium tetroxide and its application to the study of mutations" * Introduction and discussion *	5-10	
The present search report has been drawn up for all claims			
Place of search		Date of completion of search	Examiner
The Hague		24 May 91	OSBORNE H.H.
CATEGORY OF CITED DOCUMENTS			
X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention		E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons &: member of the same patent family, corresponding document	



European
Patent Office

EUROPEAN SEARCH REPORT

Page 2

Application Number

EP 90 30 1817

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	EP-A-0 259 031 (MASSACHUSETTS EYE & EAR INFIRMARY) -----		
A	EP-A-0 237 362 (CETUS CORP.) -----		
A	WO-A-8 809 387 (CLAYTON FOUNDATION) -----		
D,A	ONCOGENE, vol. 3, September 1988, pages 313-321, The Macmillan Press Ltd; D. ELIYAHU et al.: "Meth a fibrosarcoma cells express two transforming mutant p53 species" -----		
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of search 24 May 91	Examiner OSBORNE H.H.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons A : member of the same patent family, corresponding document			